Introduc tion

Individuals who use computers for extended periods of time may experience eye fatigue and pain or discomfort in the hands, wrists, arms, shoulders, neck or back. This is usually caused by poor work habits, poor work station design or improper use of workstation components. In most cases, corrective measures are relatively simple and inexpensive.

Scope and Application

While the guidelines described in this program can benefit anyone who uses a computer, they are primarily intended for departments with individuals using desktop computers. Most of the guidelines will not apply to laptop computers which are designed only for short-term use and cannot be sufficiently adjusted.

Program Description

Workstation Assessment

A survey of actual computer use will help supervisors determine which workstations and individuals should be targeted for further evaluation. Highest priority should be given to those individuals who experience symptoms and spend more than 2 hours per day at a computer. The workstation evaluation should be completed with the individual at the workstation following the ergonomic guidelines below.

Ergonomic Guidelines

The following guidelines are intended to help supervisors understand and reduce health risks associated with computer workstations. Since no two bodies are identical, different styles, models, and sizes of furniture and accessories may be needed. Since a wide variety of products are available to suit individual and departmental needs, no specific product recommendations are made here. Consult with USC Purchasing for the latest product information. The best results are usually achieved when the individual is involved in the selection process.

The work surface should be of sufficient area to accommodate the computer and all associated materials. There should be adequate space beneath this surface for the operator's legs and feet.

The keyboard and mouse should be directly in front of the operator at a height that favors a neutral posture (23 to 28 inches). When placed at standard desk height of 30 inches, they are too high for most people. Raising the chair solves this problem for some individuals. An adjustable keyboard holder with mouse deck is usually the best solution. The objective is a posture with upper arms relaxed and wrists straight in line with the forearm. Wrist rests may also help and are built into most keyboard holders. For some people alternative keyboard and mouse designs may need to be considered.

The monitor should be positioned at a distance of approximately arm's length and directly in front of or slightly to one side of the operator. The top of the screen should be no higher than eye level. A monitor placed on top of the computer can
easily be lowered by relocating the computer. Stackable monitor blocks can be used to achieve the desired height. Adjusted monitor arms enable easy height adjustment for workstations with multiple users.

A well designed chair will favorably affect posture, circulation, the amount of effort required to maintain good posture, and the amount of strain on the back. An adjustable seat back is best for support in the lumbar region. The user should be able to adjust seat height and seat pan angle from a seated position. Armrests are optional.

Additional accessories can improve operator comfort. Document holders can minimize eye, neck and shoulder strain by positioning the document close to the monitor. A footrest should be used where the feet cannot be placed firmly on the floor. Task lamps will illuminate source documents when room lighting is reduced.

Glare should be eliminated through methods that include reduction of room lighting; shielding windows with shades, curtains or blinds; positioning the terminal at a right angle to windows; and tilting the monitor to avoid reflection from overhead lighting. Glare screens are not normally necessary.

**Roles and Responsibilities**

**Department**

- Survey the workplace to identify individuals at risk.
- Plan ahead for workstation improvement expense in annual budgets.
- Plan for all work station components before purchasing new or replacement computers.
- Order needed workstation components from USC Purchasing via CSD input.

**Supervisor**

- Coach computer operators on work station adjustment and proper posture.
- Arrange workload to provide for alternative work breaks.
- Be aware of and watch for signs and symptoms of injury.
- Refer employees with injury symptoms to the Human Resources Office.
- Refer students with injury symptoms to Student Affairs Office.
- Request help from referral sources as needed.
SMT/EHS

- Evaluate workstation ergonomics upon request.
- Provide group training upon request.

Individual

- Adjust work station components to maintain a neutral posture.
- Use accessories as recommended in training and instruction.
- Report work station and physical problems to supervisor promptly.

Occupational Health

- Provide medical evaluations, consultations and treatment.

Purchasing

- Provide specific product information and recommendations.
- Purchase furniture and accessories (including installation).

For More Information

- Contact the Safety Manager Team at 938-3838.
- Ergonomics Website
- Computer Workstation Self-Audit Checklist
- Computer Workstation Self-Audit Checklist Key